UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

In Reply Refer to: 3ED21

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

OCT 2 3 2019

Mark Feldmier
President
Paul Wissmach Glass
420 Stephen Street
Paden City, WV 26159

Dear Mr. Feldmier:

Enclosed is the Air Compliance Inspection Report for EPA's September 25, 2019 inspection of Paul Wissmach's glass manufacturing plants located in Paden City, WV. Please take note of the Areas of Concern on Page 5 of the enclosed report.

If you have any questions or comments, please contact Bruce Augustine of the Enforcement & Compliance Assistance Division at (215) 814-2131 or augustine.bruce@epa.gov.

Sincerely,

Kristen Hall, Chief
Air Section
Air, RCRA, & Toxics Branch

Enclosure

cc: James Robertson, WVDEP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Report Title:	CAA Inspection Report for Wissmach Glass
Inspection Date(s):	09/25/2019
Regulatory Program(s):	N/A
Company name:	Paul Wissmach Glass
Facility Name:	Wissmach Glass
Facility Location:	420 Stephen Street Paden City, WV 26159
Mailing Address:	420 Stephen Street Paden City, WV 26159
County/Parish:	Tyler/Wetzel
Facility Contact:	Dan Lynch (304) 337-2253
AFS Number:	WV00009500004
Permit Number:	N/A
NAICS:	327212
SIC:	3229

Attendees:

Facility Representatives:

Mark Feldmier, President, (304) 337-2253
Dan Lynch, Plant Manager, (304) 337-2253
John Keeling, VP MSES Consultants, (304)423-5373

EPA Inspectors:

Bruce Augustine, Air Section, 3ED21, (215) 814-2131
Christopher Williams, Air Enforcement Division, (202) 564-7889

State/Local Inspector(s):

James Robertson, WVDEP Air Quality, (304) 926-0499 x1697

EPA Lead Inspector Signature/Date	**Bruce Augustine**	10/22/19 **Date**
EPA Inspector Signature/Date	**Chris Williams**	10/22/2019 **Date**
Supervisor Signature/Date	**Kristen Hall**	10/22/19 **Date**

I. Introduction

The Environmental Protection Agency (EPA) targeted Paul Wissmach Glass (Wissmach or the Facility) for a Clean Air Act inspection. The focus of the inspection was to observe current facility operations and to determine the extent of the use of metal hazardous air pollutants (HAP's) in their process. Wissmach was notified of the inspection by phone on September 23, 2019. The West Virginia Department of Environmental Protection (WVDEP) was notified of the inspection several weeks prior.

A. Summary of the Facility-

Wissmach manufactures colored glass for multiple applications. Wissmach products are shipped both domestically and to countries around the world. The facility has been in operation at its current site for more than 100 years. Mr Feldmier's family has owned a portion of the facility for over fifty years and became the majority owner approximately 30 years ago. The facility currently operates six days/week and one shift/day.

B. Inspection Opening Conference-

EPA Arrived at the facility at 9:00AM on September 25, 2019. Mark Feldmier and Dan Lynch were present representing Wissmach, along with their Consultant, John Keeling. James Robertson, WVDEP Air Quality, was already at the facility. EPA presented their credentials to Mr. Feldmier. EPA stated that the purpose of the inspection was to assess the current operations of Wissmach's glass manufacturing operation. EPA also indicated that Wissmach has the right to claim any material obtained during the inspection confidential. Wissmach stated that they did not anticipate any material, including photographs, would be claimed CBI, and would notify the inspectors if CBI was obtained by EPA during the inspection. EPA stated that if any material was claimed CBI, it would be treated as such according to EPA's procedures.

II. Process Overview

Wissmach operates two types of furnaces to manufacture glass from raw material. They operate day tank furnaces to produce white, clear, and some light amber glass. Wissmach's pot furnaces are used to manufacture all other colors. Mr. Lynch stated that glass made in the pot furnaces cannot be made in the day tanks because of the heating process. According to Mr. Lynch, oxygen content is controlled in the pot furnaces by dampers. Both the day tanks and pot furnaces are fired using pipes which feed natural gas into the melting chamber. The day tanks only fire gas on one side of the furnace. In the day tank, heat flows over the top of the glass to the opposite side of the furnace where it is recovered; only the surface of the glass is exposed directly to the heat source. The pot furnaces fire gas upwards toward the crown of the furnace; and is designed so that heat travels around the pot, and heats the glass on all sides. Wissmach currently operates four day tank furnaces and seven pot furnaces; one pot furnace (Furnace #3) is being rebuilt and a day tank (Furnace #4) will be converted into a pot furnace. Wissmach creates glass using a soda lime recipe. Sand and soda ash are the main ingredients in a batch. These raw materials arrive by rail and are stored in hoppers. The other raw materials make up less than

10% of a batch and are mostly stored in bags or totes. An average batch is 700-800 pounds. Wissmach uses clay pots that are three different sizes: small, medium, and large. A small pot can hold two batches while a large pot can hold six batches. All finished products are shipped via truck from the facility.

The following list identifies the furnaces currently on-site, the type of furnace (day tank or pot), and the size of pot (large, medium, small) used in the pot furnace:

Furnace ID#	Type	Size
1	Day Tank	N/A
2	Pot	Large
3	Pot[1]	Large
5	Day Tank	N/A
6	Day Tank	N/A
7	Pot	Large
8	Pot	Large
10	Pot	Large
11	Pot	Medium
12	Pot	Small
13	Pot	Small
14	Day Tank	N/A

Raw materials are weighed and added to a hopper and then mixed in a rotating drum. Batches are then placed into another hopper and moved to the furnace area for charging. The batch is charged to the day tanks and a molten glass layer (approximately 14") is maintained in the furnace. In the pot furnaces, the batch is in the pot which sits inside of the furnace. Wissmach indicated that the pot furnaces have a life of 8 to 15 years while the day tanks last 2 to 4 years between rebuild or rebrickings. The limiting factor in the life and operation of the pot furnaces is the pot itself. The pot lasts approximately 3 to 6 months before it needs to be replaced. Wissmach stated that once the furnace begins firing gas it does not shut down until it needs to be rebuilt or rebricked. Pot furnaces are shut down for maintenance each time the pot is cracked or needs to be replaced; during removal of the pot, the front of the furnace is removed and then rebricked after the pot has been replaced. After introducing gas to the furnace, it takes approximately two weeks to bring the furnace up to temperature before raw material can be introduced.

A batch of glass is charged in the pot furnaces in stages. Batch is charged for fifteen minutes every three hours. It takes approximately 12 hours to charge the entire batch into the furnace. The batch is then melted in the furnace for over 12 hours. Total time from batch charge to extraction is 22-28 hours. In general, a heated furnace will always have some glass melting in the pot; except for small periods of time to accommodate shift change (i.e., the batch was completed on a Friday evening and a new batch was started on Monday morning).

[1] Furnace is approximately 40% built – Not Currently In Service

Wissmach stated that they are using the following metal hazardous air pollutants (HAP's) as part of the raw material to make the listed colored glass:

HAP	Color
Manganese	Purple
Cobalt	Blue
Nickel	Blue/Grey
Lead	Gold/Silver
Cadmium	Red/Yellow/Orange
Chromium	Green

Wissmach explained that two large metal stacks vent emissions from most of the furnaces. Furnaces #2, #3, #4, #7, and #8 vent to the eastern most stack. Furnaces #10, #11, #12, #13, and #14 vent to the stack closer to the river. Furnace #1 has separate stack located on the roof and Furnaces #5 and #6 vent to common stack on the roof of the building. Furnaces #1, #5 and #6 are all day tanks.

Wissmach does not have a permit from the WVDEP. The source is considered a true minor. The opening meeting ended at 10:15AM.

III. Plant Tour/Walkthrough

The plant walkthrough commenced at 10:18AM. Christopher Williams took photographs during the walkthrough and all of the photos are included in Attachment 1 of this report. The plant walkthrough included Mr. Augustine and Mr. Williams, EPA; Mr. Robertson, WVDEP; and Mr. Feldmier, Mr. Lynch, and Mr. Keeling, Wissmach. The inspection team walked around the outside the facility and observed the four furnace stacks. Inside the facility, inspectors observed and a batch being prepared. Raw materials were observed in bags and totes. Several batches were staged for charging. Each of the furnaces on-site were firing natural gas during the inspection. Wissmach stated that Furnace #2 is heated but not charged with any glass. Furnace #8 just been brought back online and was heating up. All of the furnaces melt glass between 2000 to 2250°F, this temperature is the same for day tanks or pot furnaces. The inspection team observed Wissmach personnel removing molten glass from furnaces using a ladle and pouring it onto a forming table. The molten glass is rolled onto a table and placed into a lehr for controlled cooling. The lehr fires natural gas in stages to control the temperature. Cooled glass exits the lehr and is cut to size and placed into shipping containers and storage. The plant walkthrough ended at 11:28AM.

IV. Records Review

No records were reviewed during the inspection. EPA did not request any records prior to the inspection. The records that were requested during the inspection are summarized in the closing conference.

V. Closing Conference

Following the plant walkthrough, EPA, WVDEP, and Wissmach returned to the conference room for a closing meeting. Wissmach indicated that during the past year they produced approximately 1,500,000ft^2 of glass. Mr. Feldmier stated that this was a rough estimate of total glass production. In addition, finished product weighs approximately 1.5lb/ft^2. EPA, WVDEP, and Wissmach had a general discussion regarding the operation of the furnaces. EPA requested the following records from Wissmach:

- Natural gas usage for the facility (monthly) in mcf since January 2016 through the date of inspection.
- Number of days and dates that each furnace fired natural gas from January 2017 through the date of inspection.
- Usage of HAP in batches on an annual basis from January 2016 through the present from purchase records. Also, the dates of limited usage for lead, cadmium, and arsenic, where applicable.
- Annual final production (ft^2/yr) for stock and shipped product from January 2016 through the present.

Wissmach agreed to provide the information by October 31, 2019. This concluded the inspection and EPA exited the facility at 12:05PM.

VI. Areas of Concern

The following have been identified as potential issues identified during the inspection. They are issues that require either further investigation by EPA or additional information or explanation by Wissmach. Any additional information concerning these areas provided by Wissmach would become useful in determining the extant of any future actions by EPA.

- Wissmach operates multiple glass furnaces that use metal HAP in the raw material batch. The metal HAP include cadmium, antimony, manganese, chromium, cobalt, nickel, etc. These furnaces may be subject to 40 C.F.R. Part 63, Subpart SSSSSS – *National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources.*

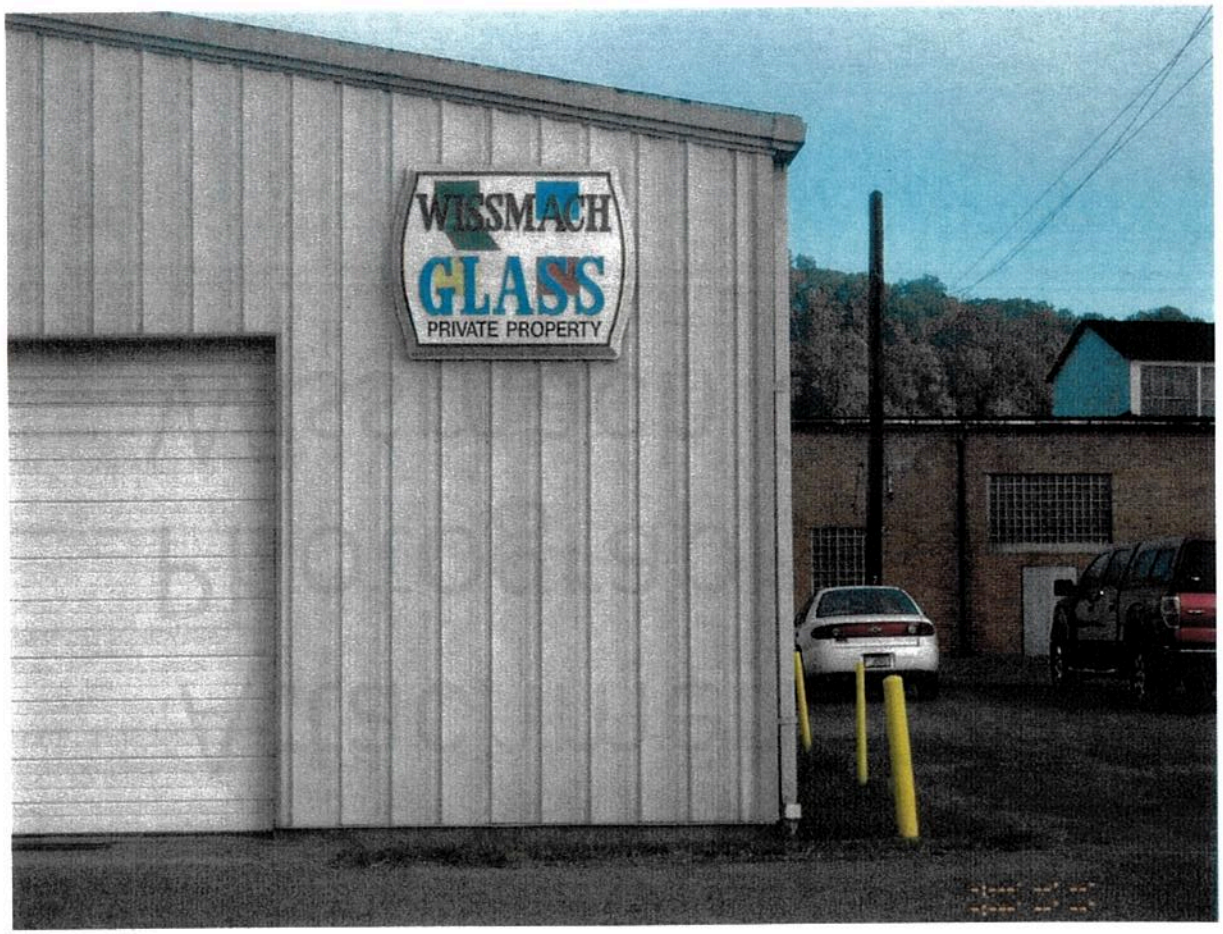
VII. List of Attachments

1. Photograph Log

Attachment 1:
Photograph Log
Wissmach Glass

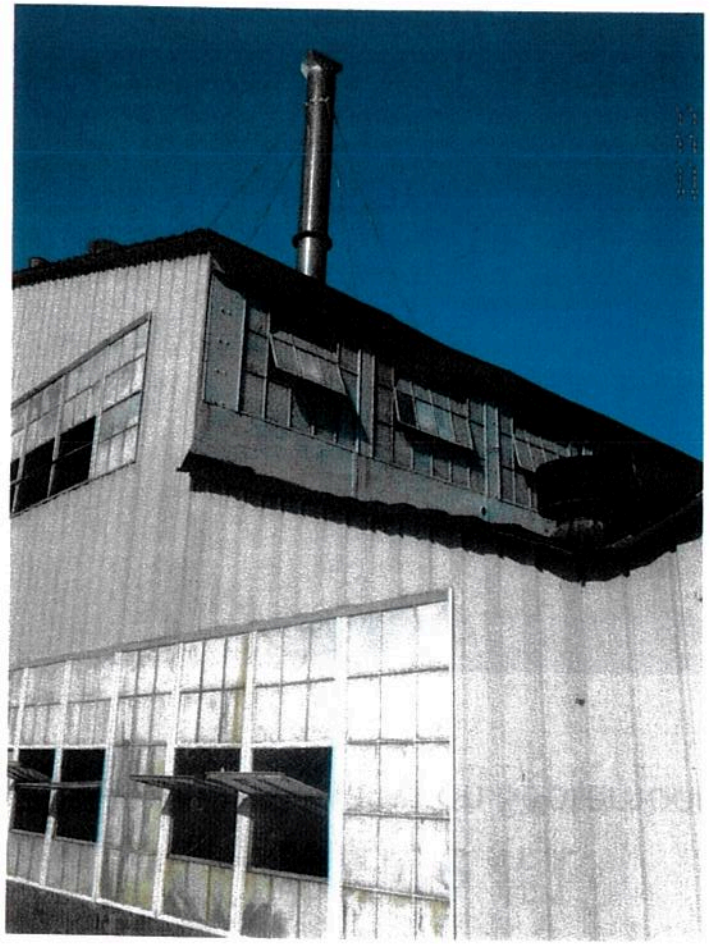
Picture of Wissmach Glass Facility entry sign

RIMG0132.JPG taken by Christopher Williams on September 25, 2019 at 9:00 AM



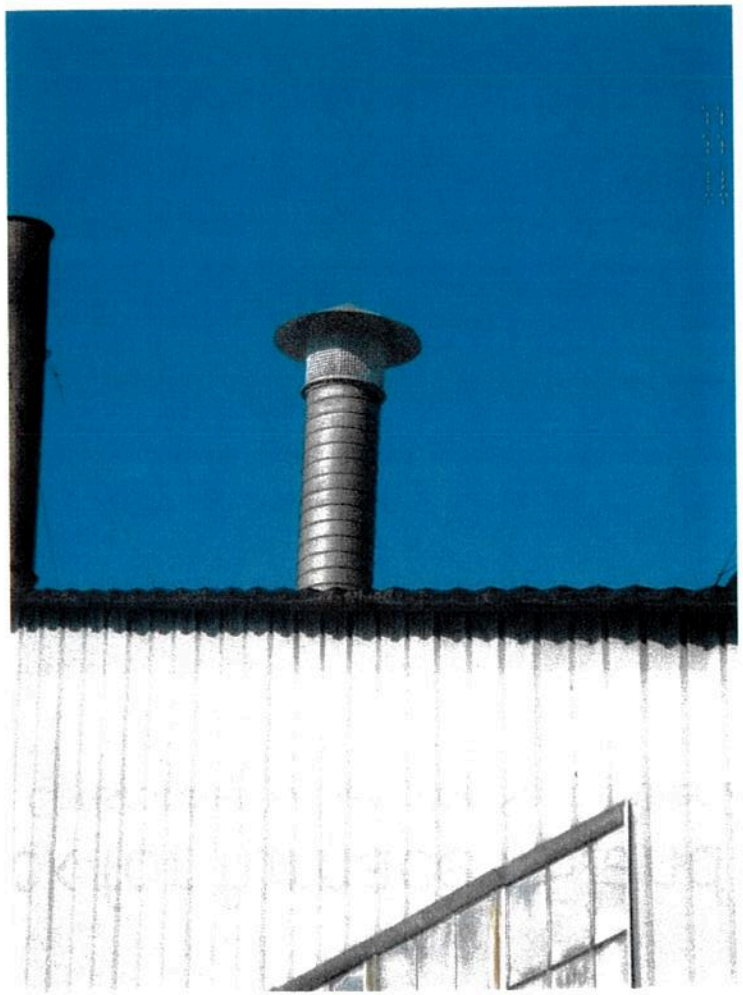
Picture of stack for furnace #5 and #6

RIMG0133.JPG taken by Christopher Williams on September 25, 2019 at 9:10 AM



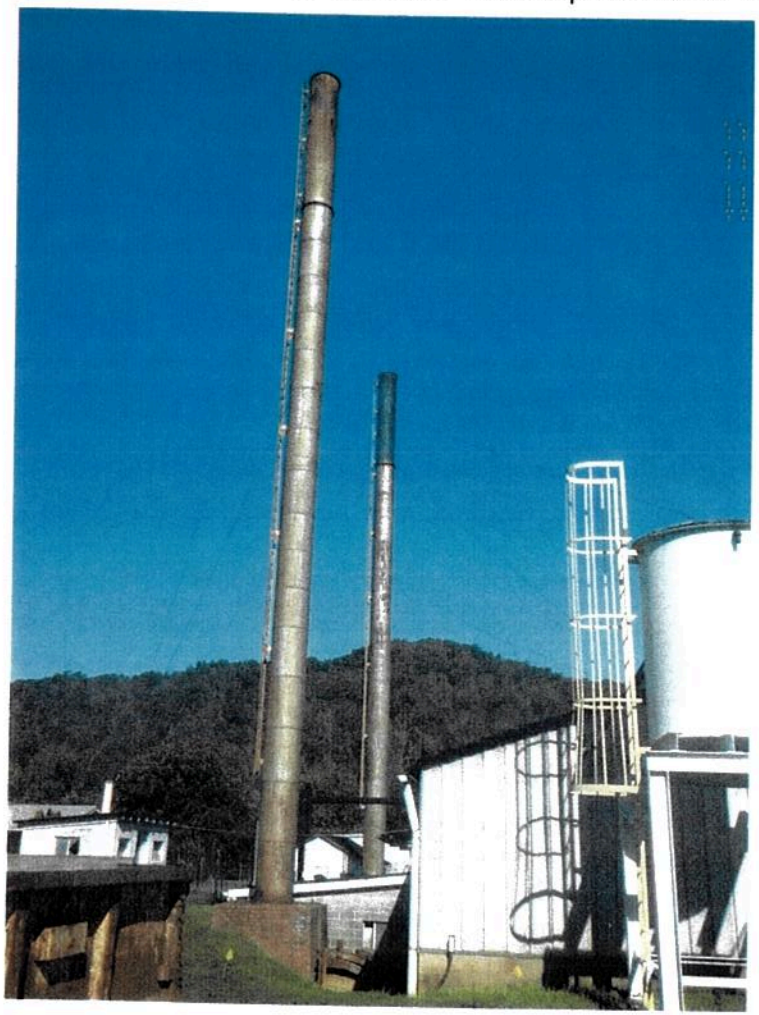
Picture of stack for furnace #1

RIMG0134.JPG taken by Christopher Williams on September 25, 2019 at 10:21 AM



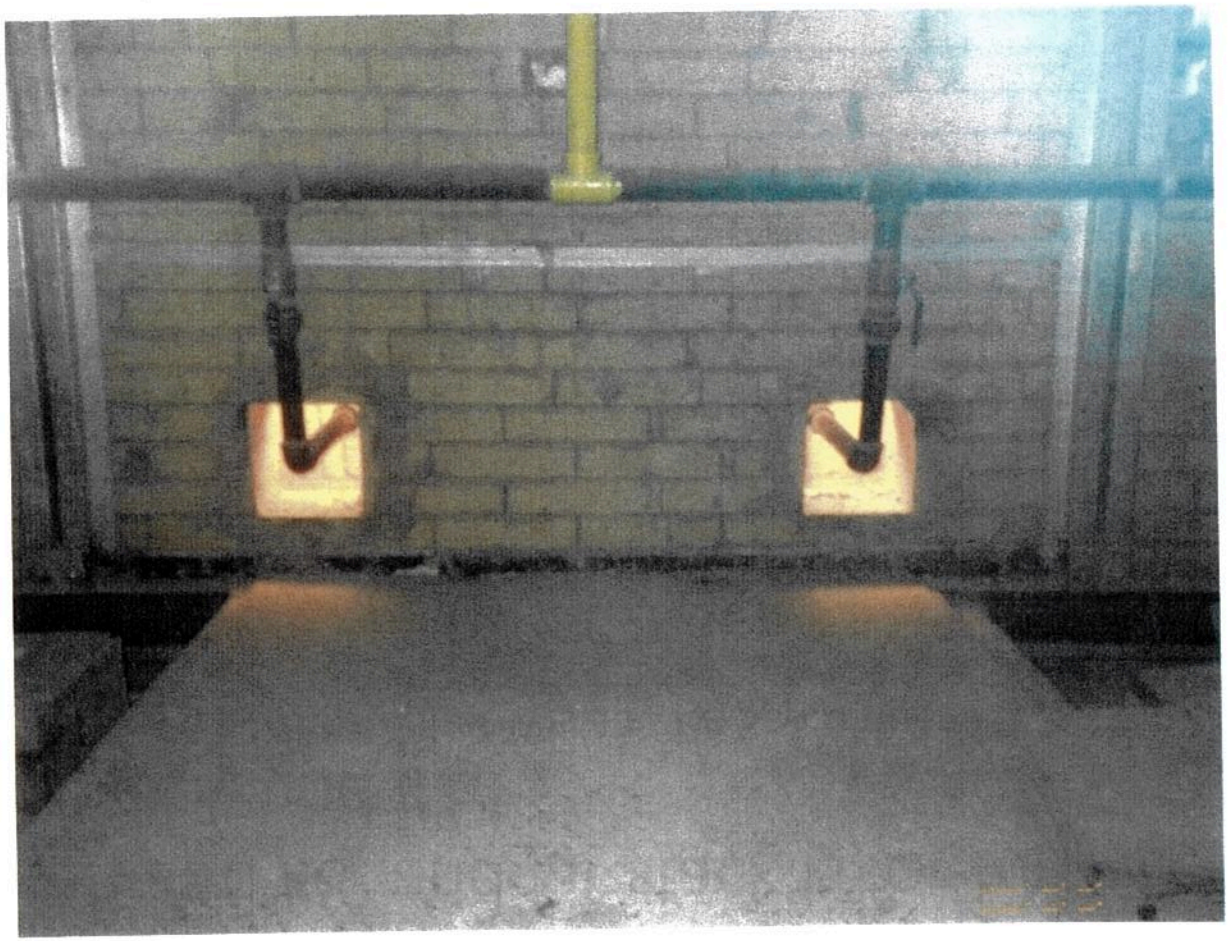
Picture of stacks - nearest stack is for furnace #2, #3, #4, #7, and #8; and far stack is for furnace #10, #11, #12, #13, and #14

RIMG0135.JPG taken by Christopher Williams on September 25, 2019 at 10:22 AM



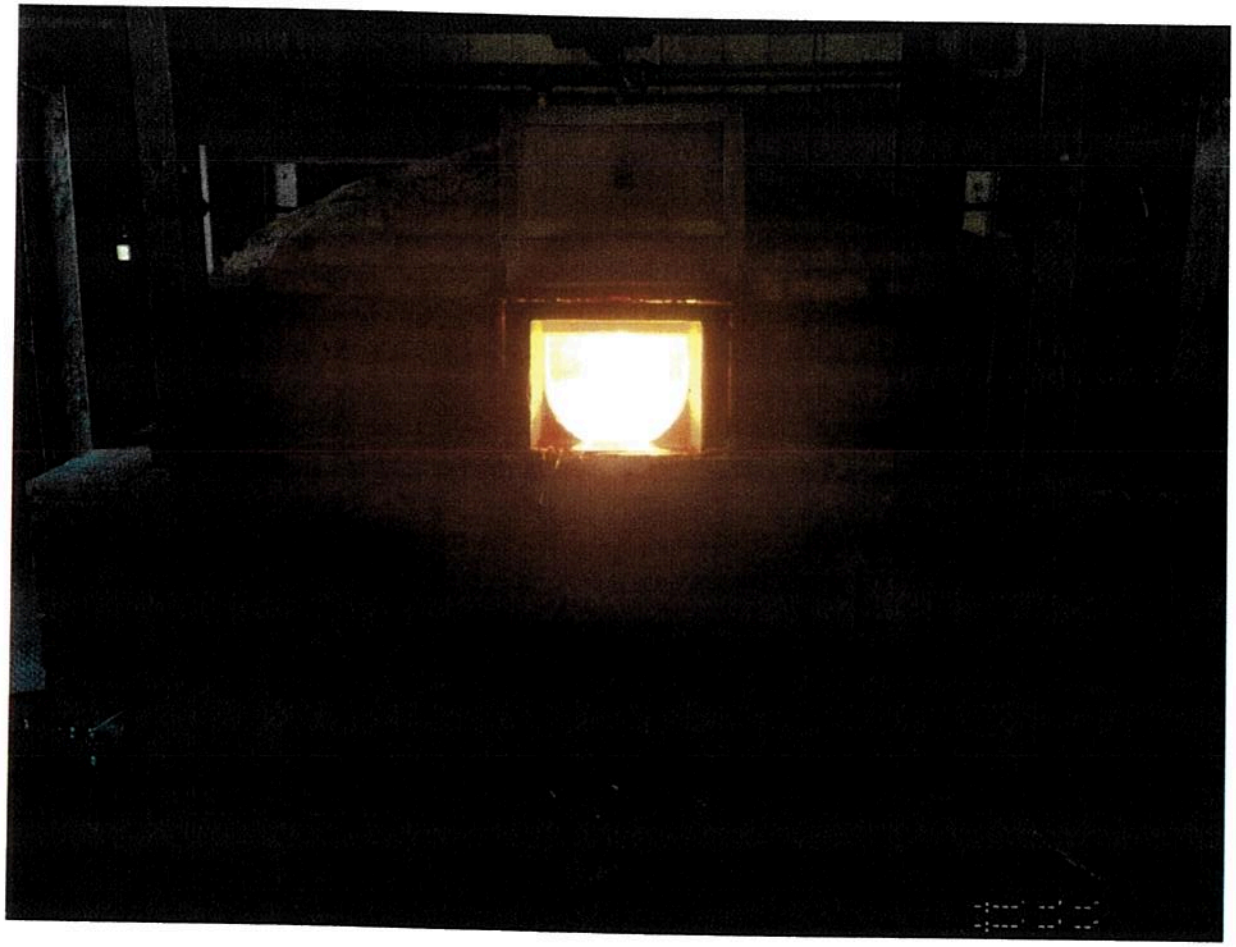
Picture of the back of furnace #10 depicting the burner system of a pot furnace

IMG0136.JPG taken by Christopher Williams on September 25, 2019 at 10:39 AM



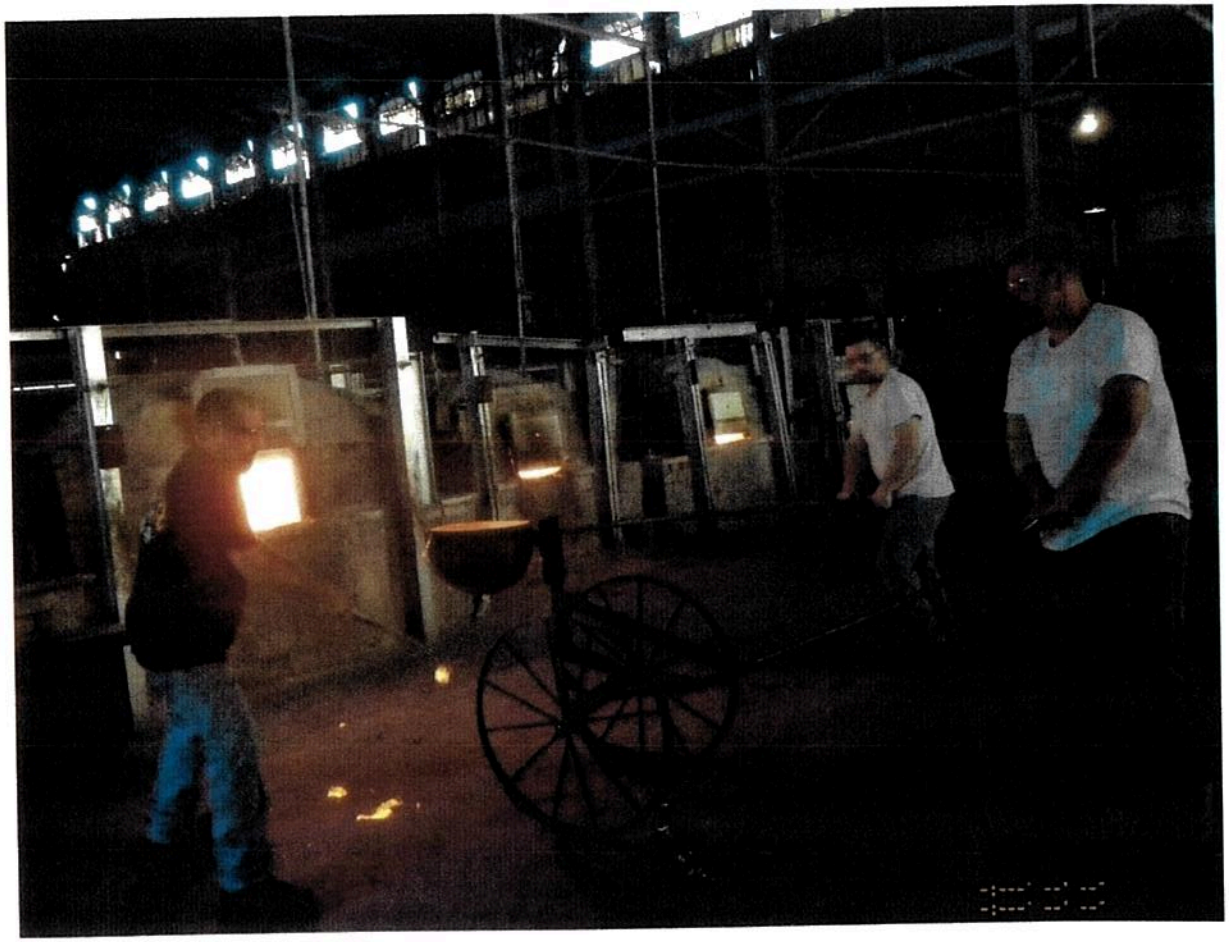
Picture of the front of furnace #10 depicting the glass extraction point of a pot furnace

RIMG0137.JPG taken by Christopher Williams on September 25, 2019 at 10:41 AM



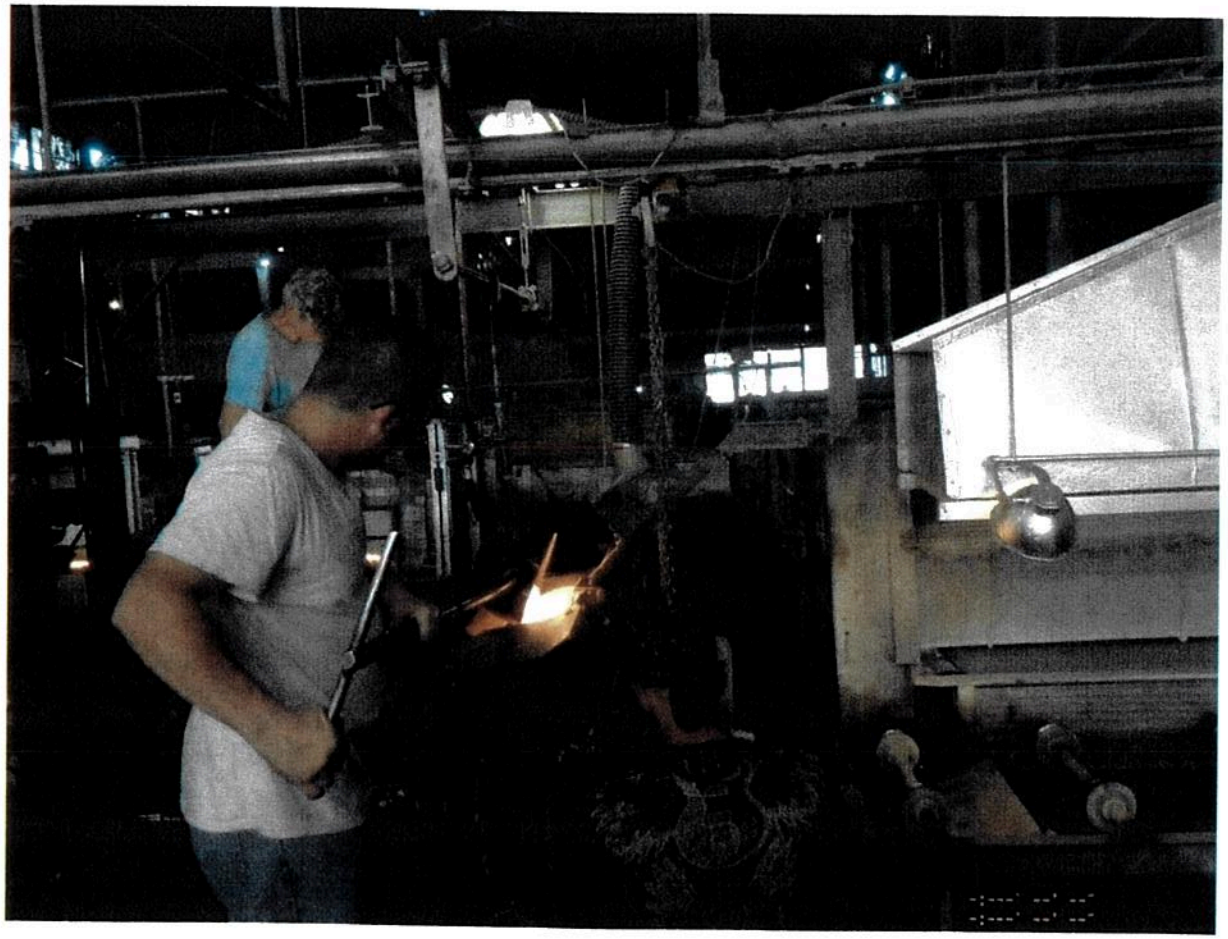
Picture of the ladle or crucible used to extract molten glass from the furnace

RIMG0138.JPG taken by Christopher Williams on September 25, 2019 at 10:41 AM



Picture of pouring molten glass onto the roller

RIMG0139.JPG taken by Christopher Williams on September 25, 2019 at 10:43 AM



Picture of molten glass cooling after it is flattened in the roller

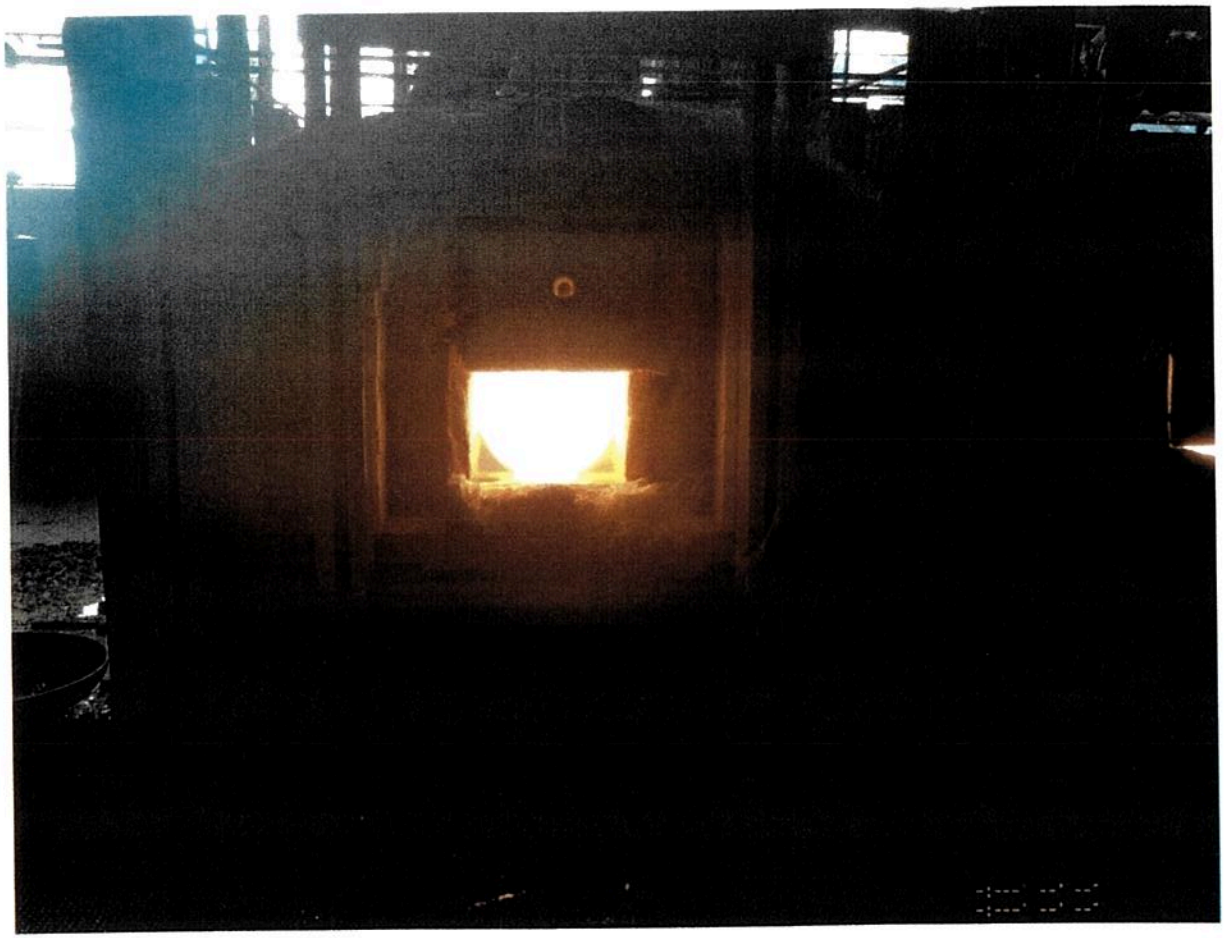
RIMG0140.JPG taken by Christopher Williams on September 25, 2019 at 10:43 AM

Picture showing a rebuild of pot furnace #3

RIMG0141.JPG taken by Christopher Williams on September 25, 2019 at 10:51 AM

Picture of the front of furnace #5 depicting the glass extraction point of a day tank furnace

RIMG0142.JPG taken by Christopher Williams on September 25, 2019 at 10:52 AM



Picture of the left side of furnace #5 depicting the burner system of a day tank furnace

RIMG0143.JPG taken by Christopher Williams on September 25, 2019 at 10:53 AM

Picture of a large pot

RIMG0144.JPG taken by Christopher Williams on September 25, 2019 at 11:09 AM

Picture of cooled flattened glass exiting the lehr

RIMG0145.JPG taken by Christopher Williams on September 25, 2019 at 11:24 AM